AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of forming a microcrystalline thin film, comprising:

supplying, during a first process, ~~a first gas~~ SiH_4 and ~~a second gas~~ H_2 to a chamber in which a substrate is located;

supplying, during a second process, ~~the second gas~~ H_2 but not ~~the first gas~~ SiH_4 to the chamber;

depositing a portion of the microcrystalline thin film during the second process; and

performing the first process and second process a plurality of times to form the microcrystalline thin film having a target film thickness on the substrate.

2. (Cancelled)

3. (Currently Amended) The method of claim [[2]] 1, wherein performing the first process and second process a plurality of times is performed without removing the substrate from the chamber.

4. (Original) The method of claim 3, further comprising applying an electric field in the chamber to break down the SiH_4 to SiH_2.

5. (Currently Amended) The method of claim 4, wherein supplying the H_2 comprises supplying the H_2 at a generally constant rate~~, and wherein supplying the SiH_4 comprises supplying the SiH_4 at a first rate during the first process but not supplying the SiH_4 during the second process~~.

6. (Original) The method of claim 4, further comprising depositing the SiH_2 to a surface of the substrate during the second process.

7. (Currently Amended) The method of claim 1, further comprising:

converting ~~the first gas~~ SiH_4 to ~~a third gas~~ SiH_2; and

depositing ~~the third gas~~ SiH_2 on the substrate during the second process.

8. (Currently Amended) The method of claim 7, wherein depositing ~~the third gas~~ SiH_2 on the substrate during the second process without supplying ~~the first gas~~ SiH_4 reduces formation of a polymer ~~of the third gas~~ due to SiH_2 molecules encountering each other prior to depositing of ~~the third gas~~ SiH_2 on the substrate.

9. (Currently Amended) A method of forming a microcrystalline thin film by activating SiH_4 ~~a first source gas containing an element that forms a polymer when a plurality of molecules of the element are bonded in a vapor phase~~, and forming a film having a microcrystalline structure ~~primarily composed of said element~~ on a film forming target object, wherein activating ~~the first source gas~~ SiH_4 comprises applying an electric field to break down ~~the first source gas~~ SiH_4 to ~~a second gas~~ SiH_2, the method further comprising:

performing a source supplying process in which ~~said first source gas~~ SiH_4 is supplied, and

performing a source depositing process in which the supply of ~~said first source gas~~ SiH_4 is stopped and ~~said second gas~~ SiH_2 is deposited on the film forming target object to form the microcrystalline structure.

10. (Currently Amended) The method of claim 9, wherein bonding of ~~the second gas~~ SiH_2 is suppressed in the source depositing process.

11. (Currently Amended) The method of claim 9, wherein H_2 ~~a third gas that does not form a polymer when bonding with itself in the vapor phase~~ is supplied in said source supplying process and said source depositing process.

12. (Currently Amended) The method of claim 11, wherein ~~the third gas~~ H_2 is supplied at a constant flow rate throughout said source supplying process and said source depositing process.

13. (Currently Amended) The method of claim 11, wherein a flow rate ratio, r, of ~~said first source gas~~ SiH_4 and ~~said third gas~~ H_2 satisfies $r \geq -(7/12)xP+72.5$, where P is an electric field intensity density irradiated on ~~said first source gas~~ SiH_4 and ~~said third gas~~ H_2.

14. (Previously Presented) The method of claim 9, wherein performing said source supplying process comprises performing the source supplying process for 2 seconds or less, and performing said source depositing process comprises performing said source depositing process for longer than said source supplying process.

15.-16. (Cancelled)

17. (Original) A method of manufacturing a thin film transistor comprising:

forming a gate electrode on the substrate;

forming an insulation layer film on said substrate and said gate electrode,

forming at least a portion of a channel layer film on said insulation layer by using the microcrystalline thin film forming method of claim 9; and

forming a source/drain electrode on said channel layer.

18. (Previously Presented) The method of manufacturing a thin film transistor of claim 17, wherein forming the channel layer film comprises forming the microcrystalline thin film up to 1 nm away into the channel layer film from the interface with said insulation layer.

19.-25. (Cancelled)

26. (Currently Amended) The method of claim 1, wherein supplying ~~the first gas~~ SiH_4 and ~~second gas~~ H_2 during the first process comprises supplying ~~the first gas~~ SiH_4 at a first rate and ~~the second gas~~ H_2 at ~~the~~ a second rate, the first rate and second rate defining a flow rate ratio that prevents a thin film formed on the substrate from becoming amorphous.

27. (Previously Presented) The method of claim 26, further comprising applying an electric field during the first process, the electric field set at an intensity that in combination with the flow rate ratio prevents a thin film formed on the substrate from becoming amorphous.

28. (Currently Amended) The method of claim 9, further comprising supplying ~~a third gas~~ H_2 during the source supplying process and during the source depositing process, ~~the first source gas~~ SiH_4 and ~~the third gas~~ H_2 being supplied at flow rates during the source supplying process to prevent a film formed on the film forming target object from becoming amorphous.

29. (Currently Amended) A method of forming a microcrystalline thin film, comprising:

supplying ~~a first gas~~ SiH_4 and ~~second gas~~ H_2 to a chamber in which a substrate is located; and

depositing the microcrystalline thin film on the substrate, wherein prior to depositing the microcrystalline thin film, the supplying of ~~the first gas~~ SiH_4 to the chamber is stopped.

30. (Previously Presented) The method of claim 29, wherein depositing the microcrystalline thin film forms a majority of the microcrystalline thin film on the substrate.

31. (New) The method of claim 29, wherein supplying SiH_4 and H_2 during the first process comprises supplying SiH_4 at a first rate and H_2 at a second rate, the first rate and second rate defining a flow rate ratio that prevents a thin film formed on the substrate from becoming amorphous.